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# THE SIGNIFICANCE OF A "TIME LAG" IN CONDUCTING A POSTAL SURVEY OF ARCHERY DEER HUNTERS[1]

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ABSTRACT

A postal survey of 301 archery deer hunters was conducted during April-May, 1970 to determine the utilization of South Carolina game management areas by archery hunters during 1969. The hunters were asked three questions; namely (1) the number of deer killed, (2) the number of visits made to the management areas, and (3) the number of hours spent while hunting deer.

Due to an oversight, the random selection of archery hunters to be contacted in the postal survey was made from returned "hunt permits" on which each archery hunter had previously answered the same questions asked in the postal survey. The questions on the returned hunt permits had been "answered" by the archery hunters at the close of each scheduled archery hunt that was held during the September-December, 1969 hunting season.

A tabulation of the information obtained from the postal survey revealed that the 301 archery hunters had killed 30 deer. These same 301 hunters had previously reported a total kill of 10 deer when answering the question on the hunt permits at the close of the archery hunts, all of which had been completed by December 31, 1969.

A comparison of the postal survey data and the returned "hunt permit" data, as regards the number of visits and the number of hours hunted, revealed also that the information submitted in the postal survey was greater than that reported at the conclusion of the hunts.

The general conclusions made from the analyses of these two "sets" of data from the same archery hunters were (1) that postal surveys of hunters should be conducted immediately after the conclusion of the hunts involved and (2) that hunters with a special interest may possibly, at times, be inclined to report erroneous information so as to achieve a specific objective.

Prior to 1969, the South Carolina Wildlife Resources Department depended upon data obtained from returned "hunt permits" to estimate the extent to which hunters utilized the state's game management areas for hunting white-tailed deer *(Odocoilus v. virginianus)*. Free hunt permits were required of all deer hunters participating in each of the several deer hunts scheduled for each management area or hunt unit. The hunt units usually included several game management areas that were administered as a single unit.

From analyses of the data tabulated from the returned hunt permits (usually about 15 to 20 percent of the permits issued), it was believed that the information obtained was extremely biased. Consequently, it was decided to conduct a postal survey of a portion of the deer hunters that utilized the game management areas during the 1969 deer season so as to obtain more valid information.

Through an oversight, the postal survey included the archery hunters although the records of their hunting success, etc., that were made at the conclusion of each hunt were already available.

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## METHODS

The "original" archery hunt data were obtained from hunt permits returned during and at the conclusion of each scheduled archery hunt. Each permit was issued as a single copy with no original copy being maintained for a postal survey. Thus, the deer kill data, amount of utilization, by archery hunters had to be obtained from only 988 returned hunt permits although an estimated 3,700 permits has been issued for archery hunting on the game management areas. Each participant in the archery hunts was requested to answer three questions; namely, (1) the number of deer killed, (2) the number of visits made to the management area during the hunt, and (3) the number of hours spent while hunting deer on the specific hunt. Four archery hunts, 2 to 16 days in length, were held between September 3 and December 31, 1969.

The information obtained from the hunt permits returned by 988 archery hunters was tabulated with each individual answer to the three questions being recorded independently from each of the returned permits on a work sheet.

These work sheets or listings of the number of deer killed, number of visits and the number of hours spent hunting by each hunter on each management area or hunt unit were analyzed by the junior author to determine the sample size required for use in the postal survey. The postal survey sample size for each archery hunt was determined through an analysis of the number of hours spent while hunting since it was more variable than the number of deer killed or number of visits.

The analysis of the "hours hunted" data (from returned hunt permits) showed that 337 archery hunters should be included in the postal survey. This size sample was selected so as to make it almost certain that the estimated total number of hours hunted would be within two hours of the true value. Since the list of answers to the other two questions showed less variability it was assumed that the postal survey would provide even more precise estimates as regards the deer killed and the number of visits made to the management areas.

The questionnaire, consisting of the same three questions that appeared on the hunt permit and with prepaid returned postage guaranteed, was prepared for the postal survey. The initial mailing was made in mid-April, 1970, with two additional mailings being made at two week intervals to non-respondents.

## RESULTS

Of the 337 archery hunters included in the survey, 301 (89.3 percent) replied. The information reported by these respondents is shown in Table 1, along with the information that was supplied 4 to 5 months earlier by the same 301 archery hunters.

A comparison of the original hunt permit data and the postal survey data (Table 1) revealed that more deer killed, more visits, and more hours of hunting were reported through the postal survey than was recorded on the original permits. The increase in the information reported was apparent in the answers to all three questions for all archery hunts.

The increase in the postal survey data regarding the number of visits made to the management areas and the number of hours spent in hunting was slight in comparison to the differences that existed between the two reports on the number of deer killed. In the latter case, the 301 archery hunters reported a total kill of 10 deer originally, while increasing the reported kill to 30 deer in their reply to the questionnaire mailed them several months later (Table 1).

In projecting the data obtained from the returned "hunt permits" and the postal survey so as to obtain estimates of the total deer kill, total number of visits, etc., for all hunters participating in the archery hunts, the difference in the two "sets" of data are compounded. For example, the estimated total deer kill from the original hunt permit data was 29 deer while a similar estimate from the postal survey data showed an estimated total of 87 deer being killed. These and other projected data are shown in Table 2 (from hunt permit data) and Table 3

TABLE 1. Results from the original permits that were included in the postal survey and postal survey data reported several months later by the same hunters for the same hunts.

| Hunt Unit w/Dates | Permits Surveyed | ORIGINAL DATA Oct.-Dec. 1969 No. Deer | No. Visits | No. Hours | POSTAL SURVEY DATA April-May 1970 No. Deer | No. Visits | No. Hours |
|---|---|---|---|---|---|---|---|
| HUNT UNIT I (Oct. 3-18) | 178 | 5 | 686 | 3,446 | 15 | 733 | 3,935 |
| HUNT UNIT II (Sept. 29-Oct. 4) | 79 | 4 | 195 | 1,017 | 10 | 290 | 1,735 |
| FRANCIS MARION (Oct. 20-25) | 33 | 1 | 70 | 418 | 4 | 79 | 602 |
| FRANCIS MARION (Dec. 29-31) | 11 | 0 | 28 | 151 | 1 | 37 | 201 |
| Total | 301 | 10 | 979 | 5,032 | 30 | 1,139 | 6,473 |

TABLE 2. Estimated total deer kill, visits and hours hunted by archery hunters on all management areas, based on a sample of original hunt permit data, 1969.

| Hunt Unit w/Dates | Number of Checked Permits Checked | Estimated total kill, visits and hours hunted Total No. Permits w/Data | Total Deer Kill | Total No. Permits w/Data | Total Visits | Total No. Permits w/Data | Total Hours |
|---|---|---|---|---|---|---|---|
| HUNT UNIT I (Oct. 3-18) | 178 | 589 | 17 | 612 | 2,359 | 606 | 11,732 |
| HUNT UNIT II (Sept. 29-Oct. 4) | 79 | 193 | 10 | 197 | 486 | 197 | 2,536 |
| FRANCIS MARION (Oct. 20-25) | 33 | 73 | 2 | 74 | 157 | 74 | 937 |
| FRANCIS MARION (Dec. 29-30) | 11 | 40 | 0 | 40 | 102 | 40 | 549 |
| Total | 301 | 895 | 29 | 923 | 3,104 | 917 | 15,754 |

TABLE 3. Estimated total deer kill, visits and hours hunted by archery hunters on all management areas, based on postal survey sample made several months after hunts were concluded in 1970.

| Hunt Unit w/Dates | Number of Original Permits Checked | Estimated total kill, visits and hours hunted Total No. Permits w/Data | Total Deer Kill | Total No. Permits w/Data | Total Visits | Total No. Permits w/Data | Total Hours |
|---|---|---|---|---|---|---|---|
| HUNT UNIT I (Oct. 3-18) | 178 | 589 | 50 | 612 | 2,520 | 606 | 13,397 |
| HUNT UNIT II (Sept. 29-Oct. 4) | 79 | 193 | 24 | 197 | 723 | 197 | 4,327 |
| FRANCIS MARION (Oct. 20-25) | 13 | 73 | 9 | 74 | 177 | 74 | 1,350 |
| FRANCIS MARION (Dec. 29-30) | 11 | 40 | 4 | 40 | 135 | 40 | 731 |
| Total | 301 | 895 | 87 | 923 | 3,555 | 917 | 19,805 |

(from postal survey data) for each management area or hunt unit where archery hunts were held in 1969.

## DISCUSSION AND CONCLUSION

The information presented in this article is by no means an attempt to de-emphasize the importance and validity of postal surveys. Instead it is intended to point out that some discrepancies could occur when postal surveys are delayed for a considerable length of time after the close of activities for which the survey was designed. Perhaps it is not unlike the fisherman or hunter whose "catch" or "kill" increases with "time".

Also, there exists the possibility that some of the individual archery hunters contacted in the survey are very positive about the ability of archery hunters alone to control an expanding deer herd. Such arguments have been presented on numerous occasions when attempting to persuade the South Carolina Wildlife Resources Department to set aside certain deer management areas exclusively for archery hunters.

Regardless of the reasons for the exaggerated data received and reported in this paper, the authors are of the opinion that all postal surveys and perhaps telephone surveys should be planned well in advance and executed as soon as possible after the close of the specific event.

# SUMMER FOOD ITEMS OF JUVENILE WILD TURKEYS[1]

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## ABSTRACT

Food items were identified from crop contents of 21 juvenile wild turkeys (*Meleagris gallopavo silvestris*, Vieillot) collected in Clarke County, Alabama during July, August and September of 1965, 1966 and 1967. Estimated ages ranged from 45 days to 105 days with an average of 75 days. By volume, vegetable materials comprised 73.2 percent and animal materials 26.8 percent of the diet. Grasses, primarily seeds, represented 61.5 percent of the total volume with bahia grass (Paspalum notatum) seed comprising 48.6 percent. Grasshoppers were the most important animal food representing 15.5 percent of the total volume. Grasses and grasshoppers made up 77 percent of the total volume, indicating the importance of openings as a source of summer foods.

## INTRODUCTION

Limited wild turkey populations during the past three decades in most areas have discouraged collection of young birds for study; as a result, food and feeding habit information for young turkeys has been gained by observation (Korschgen 1967). This paper presents results from food habits analysis of contents of 21 juvenile wild turkey crops. Sixteen of these crops were obtained from birds collected for parasite and disease study in cooperation with the Southeastern Cooperative Wildlife Disease Study. The other five were obtained as a result of casualties which occurred during trapping and banding operations. The sixteen collected for parasite and disease study were taken during the last week of July 1965, 1966 and 1967. The five trap casualties occurred during August and early September 1965 and 1966.

Turkeys were obtained from three areas in southern Clarke County, Alabama (Figure 1). All of these areas lie in the Tombigbee or Alabama river flood plains and adjoining uplands. Vegetation is primarily mature bottomland hardwoods in the flood plains and mixed pine and hardwoods in the uplands. For more detail on vegetation types see

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